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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MARCHESCHI, MICHAEL A

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 05/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/756,140

Applicant(s)

UEDA ET AL.

Examiner

Michael A Marcheschi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____ .
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☒ Claim(s) 11 and 13 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ .
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____ .
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____ .

The disclosure is objected to in view of the following:

On pages 6-8 (and any other occurrence), applicants use the characters ">" and "➤" before some of the defined functional groups and the examiner is unclear as to what these characters signify.

On page 22, line 18, and page 23, lines 15, 22 and 25 (and any other occurrence), applicants use the character "ϕ" and the examiner is unclear as to what this character signifies.

Appropriate correction is required.

Claims 1-17 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 3 and 5 are indefinite as to the phrase "capable of trapping" because this phrase does not definitely define that the functional groups traps a metal ion, thus rendering the scope of the claim unclear. This claim should be rewritten in a more definite manner (i.e. the above phrase should be changed to "**that traps**").

Claim 3 is also indefinite because the claim uses the characters ">" and "➤" before some of the defined functional groups and the examiner is unclear as to what these characters signify, thus rendering the scope of claim unclear.

Claim 9 is indefinite because it states that an ion exchange resin is milled, but claim 7 uses a chelate resin. Should this claim be milling a chelate resin?

Claims 11, 13 and 17 are indefinite as to the phrase "copper based" because the examiner is unclear as to what this means, thus rendering the scope of the claim unclear. The phrase

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"copper based" has numerous interpretations (i.e. is it pure copper, a material formed from reaction with copper, etc.) In view of this, what does the term "based" encompass? This term should be canceled from the above phrase.

Claim 15 is indefinite because the examiner is unclear as to what the spherical particle is. Are any and all spherical particles applicable? In addition, how is this particle different from the particle defined in the independent claim. In view of this, the scope of the claim is unclear.

The other claims are indefinite because they depend on indefinite claims.

Claims 11 and 13 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. These claims fail to further limit the abrasive and polishing composition, respectively (i.e. the recitation of its use (suggested by the phrase "for metal) does not further define the abrasive or polishing composition).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 and 11 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over either (1) Farkas et al., (2) Allman et al. or (3) Muroyama.

Farkas et al. teach in the entire document, a polishing slurry comprising an abrasive, water and an additive that contains at least one of the claimed functional groups.

Allman et al. teach in column 5, lines 62-67 and the claims, a polishing slurry comprising an abrasive and water wherein the abrasive has at least one of the claimed functional groups attached.

Muroyama teaches in the entire document, a polishing slurry comprising an abrasive and water, wherein the abrasive has at least one of the claimed functional groups attached.

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The claimed invention is anticipated by the references because said references teach abrasives comprising particles having at least one of the claimed functional groups. In the alternative, no patentable distinction is seen to exist between the references and the claimed invention in the absence of any evidence showing the contrary. Although the references might not literally state a "functional group for trapping a metal ion", no distinction is seen to exist because the same functional group is used.

Claims 1-3 and 11 are rejected under 35 U.S.C. 102(a or e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over either (1) Hosali et al., (2) Izumi et al. or (3) Kasai et al.

Hosali et al. teach in the entire document a polishing slurry comprising an abrasive, water and an additive that contains at least one of the claimed functional groups.

Izumi et al. teach in column 5, lines 62-67 and the claims, a polishing slurry comprising an abrasive and water, wherein the abrasive has at least one of the claimed functional groups attached.

Kasai et al. teach in the entire document column 5, lines 62-67 and the claims, a polishing slurry comprising an abrasive and water, wherein the abrasive has at least one of the claimed functional groups attached.

The claimed invention is anticipated by the references because said references teach abrasives comprising particles having at least one of the claimed functional groups. In the alternative, no patentable distinction is seen to exist between the references and the claimed invention in the absence of any evidence showing the contrary. Although the references might

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not literally state a "functional group for trapping a metal ion", no distinction is seen to exist because the same functional group is used.

Claims 12-17 are rejected under 35 U.S.C. 103(a) as obvious over either (1) Farkas et al., (2) Allman et al., (3) Muroyama, (4) Hosali et al., (5) Izumi et al. or (6) Kasai et al. All in view of Kaufman et al.

Kaufman et al. teach in column 7, lines 13-column 8, line 36 that oxidizers and triazoles are well known to be added to polishes in order to adjust the polish to meet the require polishing performance.

It is the examiners position that one skilled in the art would have found the it obvious to add an oxidizer and triazole to the polishing compositions according to the primary references because the addition of conventional polishing additives (as shown by the secondary reference) to a polishing slurry is well within the level of ordinary skill in the art in order to adjust the polish to meet the required polishing performance. With respect to the spherical particle limitation of claim 15, this particle can be encompass the references abrasive particle, thus the references meet this limitation.

Claims 1-3, 11 and 12, 14 and 16-17 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Brancaleoni et al.

Brancaleoni et al. teach in the entire document, a polishing slurry comprising an abrasive, water, an oxidizer and an additive that contains at least one of the claimed functional groups.

Omit
Farkas
Allman
Muroyama
Hosali
Izumi
Kasai
Other
Refs

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The claimed invention is anticipated by the references because said reference teaches an abrasive comprising a compound having at least one of the claimed functional groups. In the alternative, no patentable distinction is seen to exist between the reference and the claimed invention in the absence of any evidence showing the contrary. Although the reference might not literally state a "functional group for trapping a metal ion", no distinction is seen to exist because the same functional group is used.

Claim 15 is rejected under 35 U.S.C. 103(a) as obvious over Brancaleoni et al. in view of Kaufman et al.

It is the examiners position that one skilled in the art would have found it obvious to add a triazole to the polishing composition according to the primary reference because the addition of a conventional polishing additive (as shown by the secondary reference) to a polishing slurry is well within the level of ordinary skill in the art in order to adjust the polish to meet the required polishing performance. In addition, with respect to the spherical particle limitation, this particle can encompass the reference abrasive particle, thus the reference meets this limitation.

Claims 1-4, 6 and 11 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over JP 11188647.

JP 11188647 teaches in the entire document, an abrasive to grind copper comprising abrasive granules and a binder that has a functional group to capture metallic ions (i.e. at least

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one of the claimed functional groups). The functional group is defined as a chelate resin, etc.

(i.e. ion exchange resin)

The claimed invention is anticipated by the references because said references teach abrasives comprising particles having at least one of the claimed functional groups. In the alternative, no patentable distinction is seen to exist between the references and the claimed invention in the absence of any evidence showing the contrary. Although the references might not literally state a "functional group for trapping a metal ion", no distinction is seen to exist because the same functional group is used.

Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as obvious over JP 11188647.

Although the reference might not define the size of the binder, it is the examiners position that the recitation of a binder encompasses a solid material and all solids have a size. It is therefore the examiners position that since the reference fails to mention any specific size (criticality), this (the absence of any such limitation) constitutes a broad teaching of sizes. In view of this, it can be reasonably interpreted that the claimed size rate is encompassed by the broad teachings according to this reference in the absence of any evidence showing the contrary (criticality). In addition, the desired particle size is a function of the application and mere recitation of that size does not represent a patentable distinction over this reference to one of ordinary skill in the art, lacking evidence to the contrary.

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In all of the above rejections, the limitation “for metal” and the limitation of claims 11 and 13 are intended use limitations which provide no patentable weight to a known composition.

In view of the teachings as set forth above, it is the examiners position that the references reasonably teach or suggest the limitations of the rejected claims.

A reference is good not only for what it teaches but also for what one of ordinary skill might reasonably infer from the teachings. *In re Opprecht* 12 USPQ 2d 1235, 1236 (CAFC 1989); *In re Bode* USPQ 12; *In re Lamberti* 192 USPQ 278; *In re Bozek* 163 USPQ 545, 549 (CCPA 1969); *In re Van Mater* 144 USPQ 421; *In re Jacoby* 135 USPQ 317; *In re LeGrice* 133 USPQ 365; *In re Preda* 159 USPQ 342 (CCPA 1968)". In addition, "A reference can be used for all it realistically teaches and is not limited to the disclosure in its preferred embodiments" See *In re Van Marter*, 144 USPQ 421.

"A generic disclosure renders a claimed species prima facie obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423 (CCPA 1971)".

Evidence of unexpected results must be clear and convincing. *In re Lohr* 137 USPQ 548. Evidence of unexpected results must be commensurate in scope with the subject matter claimed. *In re Linder* 173 USPQ 356.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Marcheschi whose telephone number is (703) 308-3815. The examiner can be normally be reached on Monday through Thursday between the hours of 8:30-6:00 and every other Friday between the hours of 9:30-6:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiners supervisor, Mark L. Bell, can be reached at (703) 308-3823.

Amendments can also be sent by fax to the numbers set forth below:

For after final amendments, the fax number is (703) 872-9311;


For non-final amendments, the fax number is 703 872-9310.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.

Michael Marcheschi

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MICHAEL E. MARCHESCHI
PRIMARY EXAMINER